# Gulf of Mexico Harmful Algal Bloom Bulletin

Region: Texas

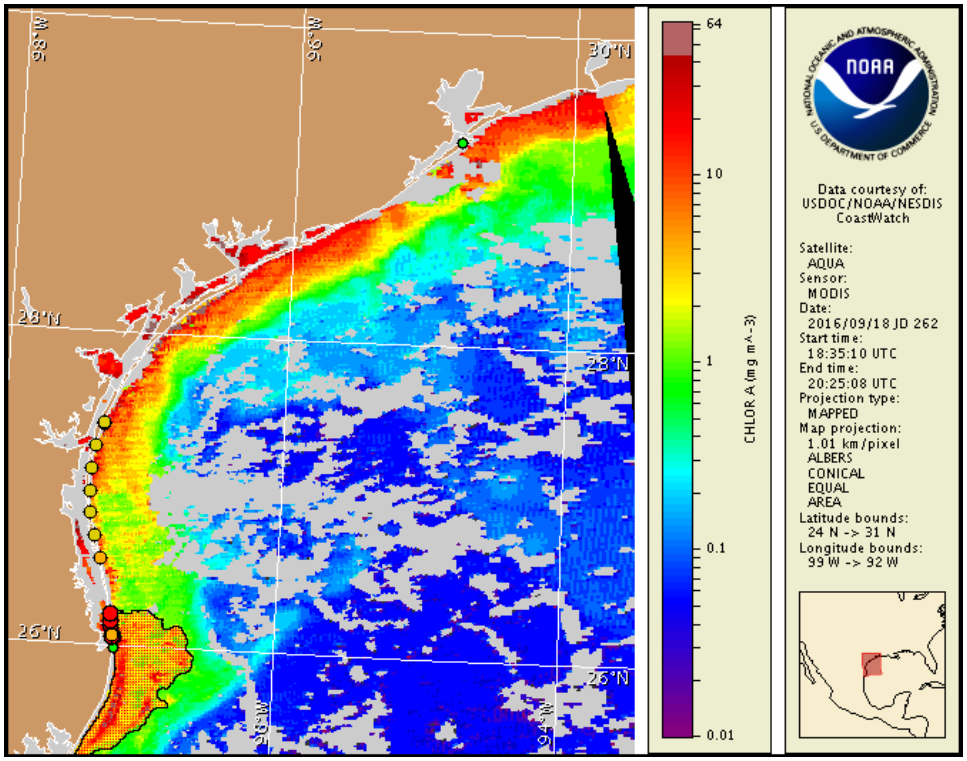
Monday, 19 September 2016

NOAA National Ocean Service

NOAA Satellite and Information Service

NOAA National Weather Service

Last bulletin: Thursday, September 15, 2016




Satellite chlorophyll image with possible *K. brevis* HAB areas shown by red polygon(s), when applicable. Points represent cell concentration sampling data from September 9 to 16: red (high), orange (medium), yellow (low b), brown (low a), blue (very low b), purple (very low a), pink (present), and green (not present). Cell count data are provided by Texas Parks and Wildlife Department. For a list of sample providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide:

http://tidesandcurrents.noaa.gov/hab/hab_publication/habfs_bulletin_guide.pdf

Detailed sample information can be obtained through the Texas Parks and Wildlife Department at:

http://www.tpwd.state.tx.us./landwater/water/environconcerns/hab/redtide/status.phtml

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To see previous bulletins and forecasts for other Harmful Algal Bloom Bulletin regions, visit the NOAA Harmful Algal Bloom Operational Forecast System bulletin archive:

http://tidesandcurrents.noaa.gov/hab/bulletins.html

## Conditions Report

*Karenia brevis* (commonly known as Texas red tide) ranges from not present to high concentrations along the Texas coast in the Port Aransas/Mustang Island to Rio Grande regions. *K. brevis* concentrations are patchy in nature and levels of respiratory irritation will vary locally based upon nearby bloom concentrations, ocean currents, and wind speed and direction. The highest level of potential respiratory irritation forecast for Monday, September 19 through Thursday, September 22 is listed below:

**County Region**: Forecast (Duration)
**Aransas Pass to PINS region**: Moderate (M-Th)
**Padre Island National Seashore region**: Moderate (M-Th)
**Mansfield Pass to Beach Access 6 region**: Moderate (M-Th)
**Beach Access 6 to Rio Grande region**: Moderate (M-Th)
**Bay region-Lower Laguna Madre to Laguna Vista**: Moderate (M-Th)
**All Other Texas Regions**: None expected (M-Th)

Check http://tidesandcurrents.noaa.gov/hab/beach_conditions.html for recent, local observations. Over the past few days, reports of respiratory irritation, dead fish, and discolored water have been received from the Lower Laguna Madre to Laguna Vista region and respiratory irritation and dead fish have been reported from the Beach Access 6 to Rio Grande region.

## Analysis

Recent samples collected along- and offshore the coast of Texas from Galveston Bay to the Rio Grande region have identified 'not present' to 'medium' concentrations of *Karenia brevis*, with the highest concentrations collected from Beach Access 6 to the Rio Grande region and within the bay region of Lower Laguna Madre (TPWD; 9/15-18). In the Aransas Pass to Padre Island National Seashore (PINS) region, sampling from the Texas A&M University's Imaging FlowCytobot, located on the Port Aransas ship channel, indicates that *K. brevis* ranges between 'not present' and 'very low a' concentrations (TAMU; 9/16-19). In the PINS region, samples have decreased to 'low a' *K. brevis* concentrations (TPWD; 9/16). In the Beach Access 6 to Rio Grande region and in the Lower Laguna Madre to Laguna Vista bay regions samples indicate that *K. brevis* has decreased to a range of 'not present' to 'medium' concentrations (TWPD; 9/16-18). For information on area shellfish restrictions, contact the Texas Department of State Health Services.

Recent MODIS Aqua imagery (9/18; shown left) is partially obscured by clouds along the Texas coast from Sabine Pass to the Galveston Island region, limiting analysis. Patches of elevated to very high chlorophyll (2 to >20 $\mu$g/L) are visible from Sabine Pass to Galveston Island. Elevated chlorophyll from Sabine Pass to Galveston Island is not necessarily indicative of the presence of *K. brevis* and may be due to the resuspension of benthic chlorophyll and sediments along the coast. Patches of elevated to very high chlorophyll (2 to >20 $\mu$g/L) are present along- and offshore from the Matagorda Peninsula region to approximately 70 km south of the Rio Grande. Along the Texas coast, chlorophyll appears to be highest in the areas along the Matagorda Island and PINS regions. Continued sampling is recommended.

Forecast models based on predicted near-surface currents indicate a maximum transport

of 20 km north from the Port Aransas region, 40 km north from PINS Mile Marker #15, and 40 km north from Brazos Santiago Pass from September 18-22.

Kavanaugh, Davis

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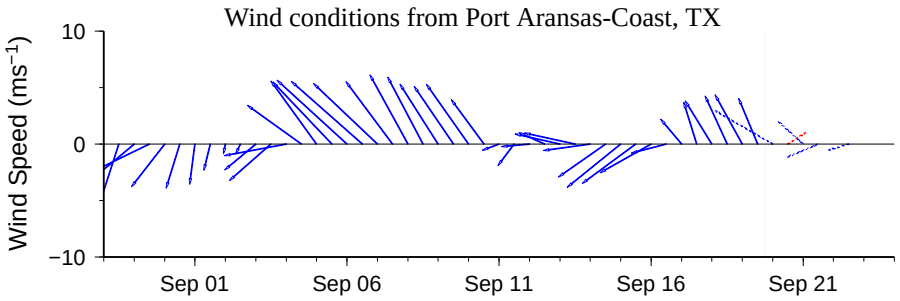
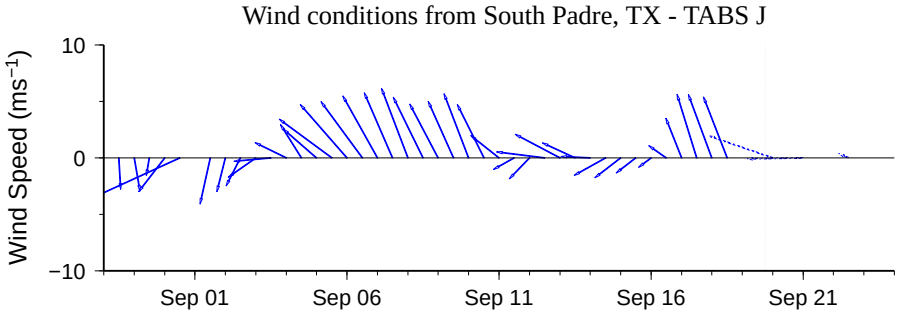



Wind speed and direction are averaged over 12 hours from buoy measurements. Length of line indicates speed; angle indicates direction. Red indicates that the wind direction favors upwelling near the coast. Values to the left of the dotted vertical line are measured values; values to the right are forecasts. Wind observation and forecast data provided by NOAA's National Weather Service (NWS).

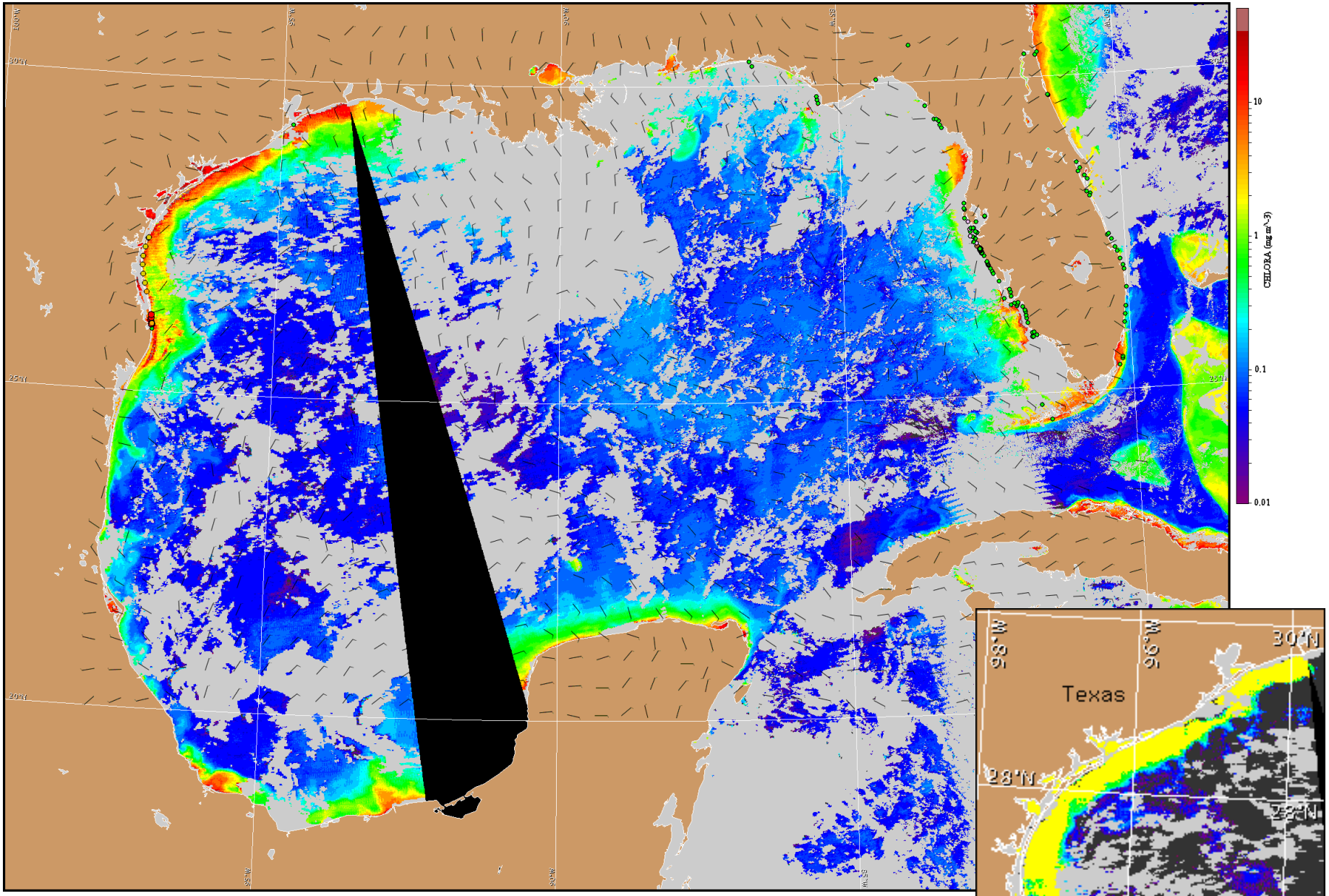





# Wind Analysis

**Baffin Bay to Port Aransas**: Southwest winds (5-10kn, 3-5m/s) today becoming east to southeast winds (5-15kn, 3-8m/s) this afternoon through Thursday night.

**Baffin Bay to Port Mansfield**: Light winds today becoming east to southeast winds (7-14kn, 4-7m/s) in the early afternoon through Tuesday night. Northeast winds (7-11kn, 4-6m/s) Wednesday becoming east to southeast winds (7-14kn, 4-7m/s) Wednesday night through Thursday night.




Satellite chlorophyll image and forecast winds for September 20, 2016 12Z with points representing cell concentration sampling data from September 9 to 16: red (high), orange (medium), yellow (low b), brown (low a), blue (very low b), purple (very low a), pink (present), and green (not present). Cell count data are provided by Texas Parks and Wildlife Department. For a list of sample providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide:

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Verified and suspected HAB areas shown in red. Other areas of high chlorophyll concentration shown in yellow (see p. 1 analysis for interpretation).